

REMARKS

The method of the subject invention for forming a tactile walking surface structure in place having underfoot detectability includes the following steps. A plurality of pins are provided that each have an upper end head portion and a shank portion. The upper end head portion of each of the pins has a greater diameter than the diameter of the shank portion of each of the pins. A template, having a selected repetitive pattern for establishing locations on the upper surface of the concrete slab of a walkway for drilling holes to receive the shank portions of the pins, is located on an upper surface of a concrete slab of a walkway. The template is used to determine the location of the holes in the upper surface of the concrete slab of the walkway and the holes are drilled in the upper surface of the concrete slab in the selected repetitive pattern of the template. The holes each have a diameter, sized to receive the shank portion of one of the pins, which is less in diameter than the diameter of the upper end head portions of the pins. The holes are each drilled to a greater depth than the length of the shank portion of each of the pins so that the height of the upper end head portion of each of the pins above the upper surface of the concrete slab is a preselected minimum distance when the upper end head portion of the pin is resting on the upper surface of the concrete slab. The holes are located within a defined area of the upper surface of the concrete slab that is at least one foot in width by at least two feet in length and the holes are spaced from each other in the selected hole pattern of the template so that, when the shank portions of the pins are inserted into the holes and bonded to the concrete slab with the upper end head portions of the pins projecting upward beyond the upper surface of the concrete slab at least the minimum distance, the upper end head portions of the pins in the defined area of the upper surface of the concrete slab form a walking surface having

underfoot detectability. The shank portions of the pins are then inserted into the holes with the upper end head portions of the pins resting on the upper surface of the concrete slab and projecting upward beyond the upper surface of the concrete slab at least the minimum distance and the pins are bonded to the concrete slab to form a walking surface having underfoot detectability.

Claims 1 to 4 have been rejected under 35 USC 103(a) as being unpatentable over the McCuskey patent (US Patent No. 6,709,191) in view of Palazzotto et al (US Patent No. 5,822,120).

Claim 1 defines a method wherein a template, having a selected repetitive pattern for establishing locations on the upper surface of the concrete slab of a walkway for drilling holes to receive the shank portions of the pins forming the tactile walking surface, is located on an upper surface of a concrete slab of a walkway. The template is then used to determine the location of the holes in the upper surface of the concrete slab of the walkway and the holes are drilled in the upper surface of the concrete slab in the selected repetitive pattern of the template to a depth greater than the shank length of the pins so the heads of the pins rest on the surface. With the method of the subject invention, the laborious and time consuming procedure required for the placement of the holes in the walkway surface discussed in the background of the invention of the McCuskey patent is eliminated. The use of the template in the method of the subject invention assures that the holes for the pins forming the tactile walking surface of the subject invention can be quickly, easily, and exactly located and drilled in the walkway in a repetitive pattern, even with unskilled labor, to provide a tactile walking surface wherein the pins are precisely located in the selected repetitive pattern desired for the tactile surface.

In the background of the invention, the McCuskey patent discloses a method of forming a tactile indicator on a walkway surface with markers wherein a grid of holes is

drilled in an existing walkway and elongated pins extending out from underside of the markers are inserted into and bonded within the holes. In the background of the invention, the McCuskey patent further states "While the drilling of holes and fitting of the markers individually avoids the removal of the existing surface, the placement and drilling procedure is time consuming and laborious". The McCuskey patent further discloses a method for forming a tactile indicator on a walkway surface that is to supersede the above method. The superseding method disclosed in the McCuskey patent for solving the time consuming and laborious placement and drilling procedure of the prior art for fitting tactile indicators onto an existing walkway surface does not involve the use of a template. The method disclosed in the McCuskey patent for fitting tactile indicators onto an existing walkway surface involves: cutting one or a plurality of spaced apart parallel channels in the walkway surface; arranging the elongated flange or flanges of one or more of the tactile indicators of the McCuskey patent within the one or more spaced apart parallel channels cut into the walkway surface; and using the flanges of those tactile indicators to provide a predetermined spacing between the marker heads. Where the cutting of a channel in the walkway surface is not feasible, the method of the McCuskey patent utilizes tactile indicators (shown in Figures 11 to 13) that are preferably injection molded from polyurethane, have head portions 26, and circular flange portions 27. The indicators are inserted into circular apertures drilled in a walkway surface with the peripheries 26a of the head portions preferably protruding out past the flanges 27 sufficiently to overlap the aperture and conceal any edge cracks or defects. There is no indication in the disclosure of the McCuskey patent that McCuskey performs this portion of his method other than by the time consuming and laborious method of the prior art. Thus, even though templates are well known and have existed for hundreds of years, McCuskey's solution to the formation of tactile warning surfaces on site is an entirely different approach from that of the subject invention and does not

even suggest the use of a template to overcome the time consuming and laborious method of the prior art for the in place formation of tactile warning surfaces in existing walkways. Instead McCuskey proposes to solve the time consuming and laborious problem of in place formation of tactile warning surfaces in existing walkways used in the prior art by cutting channels in the surface and inserting the elongated flanges of his tactile indicators into the channels and, where the cutting of channels in the walkway surface is not feasible, McCuskey reverts to the prior art method disclosed in the background of the invention in the McCuskey patent. Thus, McCuskey, though well aware of the prior art problems involved in the in place formation of tactile warning surfaces, fails to disclose or suggest a method that utilizes a template for the placement of the tactile indicators where the cutting of channels in the walkway surface is not feasible, such as the method set forth in claim 1, to overcome the problems of the prior art so that the holes for the tactile indicators can be quickly, easily, and accurately located and drilled in a walkway in a selected repetitive pattern even with unskilled labor.

The Palazzotto et al patent discloses layered retroreflective elements for use as pavement markings to guide or direct motorists traveling on a roadway (such as the elements shown in Figures 1 and 2 of the patent) and a method of making the layered retroreflective elements. The Palazzotto et al patent also discloses the making of panels off site for test purposes with the layered retroreflective elements adhesively adhered to the surface of panels. When making these panels, one set of panels was made with the retroreflective elements adhered to the panels in a "random pattern" and one set of panels was made with the retroreflective elements in an "ordered arrangement". When making these panels off site with the random pattern of retroreflective elements, a random pattern of holes was punched into paper stock to act as a template. However, when making these panels off site with the retroreflective elements in an "ordered arrangement" the retroreflective elements were merely placed in rows 10 cm apart with

13 reflective elements to a row and there is no mention in the patent of using a template in this procedure. Furthermore, the only method discussed in the Palazzotto et al patent for the in place installation the retroreflective elements at the job site is the dropping or cascading of the retroreflective elements onto a binder already applied to the roadway surface in an ordered or random pattern (col. 9, lines 57 to 61; col. 11, lines 32 to 34); and col. 11 lines 47 to 54). Thus, the Palazzotto et al patent discloses a method that uses a template for prefabricating a panel off site with a plurality of layered retroreflective elements that are randomly located on its upper surface. However, while the Palazzotto et al patent discloses a method for the off site formation of panels of randomly located retroreflective elements that utilizes a template for making the panels, the Palazzotto et al patent teaches a method for the off site formation of panels with ordered arrangements of retroreflective elements that does not utilize a template for making the panels and a method for the on site or in place formation of pavement markings utilizing retroreflective elements wherein the retroreflective elements are dropped or cascaded onto the binder coated pavement.

Thus, the McCuskey patent teaches a method for the in place formation of tactile warning surfaces to overcome the problems in the prior art that utilizes tactile indicators with flanges that are inserted into channels formed in the pavement. The method disclosed in the McCuskey patent does not use a template for the in place location of the his flanged tactile indicators and does not suggest the use of a template for such a purpose, as required in the method of claim 1 and the claims depending therefrom. In fact, the McCuskey patent teaches away from the method of the subject invention by apparently reverting back to the prior art method of forming at least portions of his tactile warning surfaces where the cutting of channels in the pavement required for his basic method is not feasible. Clearly, there is no suggestion in the McCuskey patent of utilizing a template in his method in connection with the in place or on site formation of a

tactile warning surface. The Palazzotto et al patent, while clearly aware of the use of templates for certain applications, such as the off site formation of panels with retroreflective elements arranged in a "random pattern", does not even use a template for the off site formation of panels with retroreflective elements in an ordered arrangement. Furthermore, the only method of forming reflective surfaces in place taught by the Palazzotto et al patent is the dropping or cascading of the retroreflective elements on a binder covered pavement. Thus, neither the McCuskey patent nor the Palazzotto et al patent disclose or suggest a method for forming a tactile warning surface in a walkway that uses a template with a repetitive pattern for establishing locations on the upper surface of a concrete slab for drilling holes to receive pins or indicators that form the tactile warning surface. The use of the template in the method of the subject invention assures that the holes for the pins forming the tactile walking surface of the subject invention can be quickly and exactly located and drilled in the walkway in a repetitive pattern, even with unskilled labor, to provide a tactile walking surface wherein the pins are precisely located in the selected repetitive pattern desired for the tactile surface and to eliminate the laborious and time consuming procedure required for the placement of the holes in the walkway surface discussed in the background of the invention of the McCuskey patent. For the reasons set forth above, claims 1 to 4 patentably distinguish the method of the subject invention over the McCuskey patent and the Palazzotto et al patent. Accordingly, the allowance of claims 1 to 4 over the McCuskey patent and the Palazzotto et al patent is solicited.

Claims 5 to 8 have been rejected under 35 USC 103(a) as being unpatentable over the McCuskey patent (US Patent No. 6,709,191) and Palazzotto et al (US Patent No. 5,822,120) as applied to claim 4 above, and further in view of the Foster et al patent (US Patent No. 2,321,476).

The Foster et al patent discloses a marker 3 made from metal, ceramic materials, cement, glass, etc. The marker 3 has a central hole 5 through which an anchoring bolt or pin 6 passes to secure the marker to a pavement by driving an anchoring bolt or pin 6 into a wooden plug 7 placed in the pavement. Tar may be applied to the bottom surface of the marker 3 to help secure the marker to the pavement.

Claims 5 to 8 depend from claim 4 and are patentable for the same reasons discussed above in connection with claims 1 to 4. In addition, claims 5 and 6 define a method wherein the pins used in the method, which have a head portion and a shank portion, are made from a cementitious material having a compressive strength equal to or greater than the concrete slab and a coefficient of thermal expansion substantially the same as that of the concrete slab. The bolt or pin 6 of the Foster et al patent used to secure the marker 3 to the wooden plug in the pavement by being driven into the wooden plug appears to be a metal bolt or pin and there is no suggestion that the bolt or pin 6 is made of cementitious material having a compressive strength equal to or greater than the concrete slab and a coefficient of thermal expansion substantially the same as that of the concrete slab as required by claims 5 and 6. For the reasons set forth above, claim 5 to 8 patentably distinguish the method of the subject invention over the McCuskey patent, the Palazzotto et al patent, and the Foster et al patent. Accordingly, the allowance of claims 5 to 8 over the McCuskey patent, the Palazzotto et al patent, and the Foster et al patent is solicited.

Claim 9 has been rejected under 35 USC 103(a) as being unpatentable over the McCuskey patent (US Patent No. 6,709,191), Palazzotto et al (US Patent No. 5,822,120), and the Foster et al patent (US Patent No. 2,321,476) as applied to claim 8 above, and further in view of the Webster patent (US Patent No. 1,966,227). The Webster patent discloses split pins 31 and 32 securing a traffic marker 33 to a roadway wherein the split pins are driven into a hole filled with asphalt. There is a space between

the split pins and the sidewall of the hole. However, the Webster patent does not otherwise supplement the disclosures of the McCuskey patent, the Palazzotto et al patent, and the Foster et al patent. For the reasons set forth above in connection with the patentability of claim 1 and the claims depending there from, claim 9 patentably distinguishes the method of the subject invention over the McCuskey patent, the Palazzotto et al patent, the Foster et al patent, and the Webster patent. Accordingly, the allowance of claim 9 over the McCuskey patent, the Palazzotto et al patent, the Foster et al patent, and the Webster patent is solicited.

Respectfully submitted,


Attorney for Applicant

John D. Lister
Registration No. 23,004
(480) 641-7459